# ABSTRACT

The primary purpose of this thesis is to explain a device which could be used as an alternative for a computer mouse. Instead of using a regular roller found in an ordinary mouse, the device uses a pressure sensitive sensor to control the computer cursor on the monitor.

The device is developed mainly for a personal computer with Universal Serial Bus (USB) capability. The computer should have an operating system of Microsoft Windows 98 or newer. The device does not need any additional driver, and it has a USB hot-plug-and-play feature. It uses a Human Interface Device (HID) driver provided by Windows.

The device mainly has two buttons (right and left) and is approximately 4" by 3" by 2" in size. Users can press their fingers on to the device to control the cursor. The device will be small enough to be fit inside a person's palm. The area has four pressure sensors used to move the cursor to the left, right, upward and downward. The user can control some parameters, such as cursor movement rate, by just controlling the amount of force pressed on that area. The device will be made from a soft material with a hard box inside. All the necessary components will be placed inside the box. Only the sensors are outside the box, so that the user can control the sensors by squeezing the device. This would make it comfortable for users to operate the device.